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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Tsutomu Natsuhara

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EXAMINER

MULLINS, BURTON S

ART UNIT

PAPER NUMBER

2834

NOTIFICATION DATE

DELIVERY MODE

04/09/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/553,461	Applicant(s) NATSUHARA ET AL.	
	Examiner BURTON MULLINS	Art Unit 2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 3 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In view of the amendment to claim 1 whereby the “resilient member” is described as “elastically pressing the switching elements against the heat-radiating member”, it is not clear how the claim 3 recitation “said switching elements contact said heat-radiating member” further distinguishes because “elastically pressing the switching elements against the heat-radiating member” implies the switching elements “contact” the heat-radiating member. Similarly, it is not clear how the claim 6 recitation “the resilient member simultaneously pushes said switching elements to the heat-radiating member” further distinguishes, since elastic pressing inherently comprises “pushing”. Furthermore,³ the adverb “simultaneously” implies the “pushing” of the switching elements to the heat-radiating member occurs at the same time as some other action, but what this is has not been specified.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3-4 & 6-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Sunaga et al. (US 6,661,134). Sunaga teaches a brushless motor having a stator 2, a rotor 3 and a circuit board 40 for controlling rotation of said rotor (c.3:66-c.4:3), wherein the stator has iron cores 5 (metal plates; c.3:4-5) and coils 7 wound around the iron cores, the brushless motor further comprising: switching elements 41 mounted to said circuit board 40 for turning on and off electric power to be supplied to the coils of said stator (c.4:5-11), and a heat-radiating member (heat sink) 70 (with fins 71) fixed to said iron cores of said stator (housing 4, case 20, heat sink 70, etc., are all “fixed”, i.e., connected to each other); and a resilient (pressing) member 60 for elastically pressing the switching elements 41 against the heat-radiating member 70 (c.6:49-&c.7:7-22; Figs.9-12).

Regarding claim 3, the switching elements 41 contact said heat-radiating member 70 because they are pressed against it.

Regarding claim 4, the iron cores 5 are screwed to said heat-radiating member 70 in that screws (not numbered, Fig.1) connect the housing flange portion 4a (connected to iron cores 5) to the case 20, to which the heat-radiating member 70 is fixed (c.3:1-3).

Regarding claim 6, the resilient member 60 “simultaneously pushes” [sic] (i.e., presses) said switching elements 41 to the heat-radiating member 70.

Regarding claim 7, Sunaga’s motor drives a blower fan (not shown) installed at one end of shaft 10 (c.3:15-17) and thus teaches a cooling fan for cooling said switching elements and said coils since the blower fan circulates air about the coils and switching elements, thus cooling these elements.

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4. Claims 1-4 & 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Patyk et al. (US 5,939,807). Patyk teaches a brushless motor having a stator 30, a rotor 32 and a circuit board 76 for controlling rotation of said rotor (c.6:12-14), wherein the stator has iron cores 40 (metallic core, c.5:10) and coils 42 wound around the iron cores (Fig.2), the brushless motor further comprising: switching elements 90 mounted to said circuit board 76 for turning on and off electric power to be supplied to the coils of said stator (inherent to switching elements), and a heat-radiating member (rear end cap) 20 (c.7:4-7) fixed to said iron cores of said stator (by bolts 112 in core passages 48; c.5:18-22 & c.6:61-65); and a resilient member 100 for elastically pressing the switching elements 90 against the heat-radiating member 20 (by biasing members 98; Fig.8, c.6:23-34).

Regarding claim 2, two bearings 60 & 74 are supported rotatably at two ends of a shaft 22 of said rotor (Fig.2), and one of the bearings 74 is supported by said heat-radiating member 20 (in recess 88, Fig.2, c.6:9-11).

Regarding claim 3, the switching elements 90 contact said heat-radiating member 20 (c.6:23-34).

Regarding claim 4, the iron cores 40 are screwed to said heat-radiating member 20 by bolts 112 in core passages 48; c.5:18-22 & c.6:61-65; Fig.2).

Regarding claim 6, the resilient member 100 “simultaneously pushes” [sic] said switching elements 90 to the heat-radiating member 20 since the biasing members 98 urge the switching elements to the sides of recesses 92 in the heat-radiating member 20 (c.6:29-30; Fig.8).

Regarding claim 7, Patyk’s motor drives fans (not shown) installed at one end of shaft (c.12:55-56) and thus teaches a cooling fan for cooling said switching elements and said coils

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since the blower fan circulates air about the coils and switching elements, thus cooling these elements.

5. Claims 1, 3-4 & 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Ochi (5,083,052). Ochi teaches a brushless fan motor having a stator 19, a rotor 3 and a circuit board 25 for controlling rotation of said rotor (Figs.3-4; c.7:55-c.8:2), wherein the stator has iron cores 41 (c.8:6) and coils 42 wound around the iron cores (Fig.3-4), the brushless motor further comprising: switching elements (power transistors) 27 mounted to said circuit board 25 for turning on and off electric power to be supplied to the coils of said stator (inherent to switching elements), and a heat-radiating member (end bracket) 11 (c.8:1-2) fixed to said iron cores 41 of said stator (by screws & fixed shaft 15, Fig.3); and a resilient member (clips) 134/234 for elastically pressing the switching elements (transistors Q1-Q6) against the heat-radiating member (bracket) 107/207 (see third & fourth embodiments, Fig.16 & 33, c.4:8-10; c.13:66-68; c.18:19-47).

Regarding claim 3, the switching elements contact said heat-radiating member 107/207.

Regarding claim 4, the iron cores 41 are screwed to said heat-radiating member 107/207 by screws & fixed shaft 15 (Figs.3&33).

Regarding claim 6, the resilient member 134/234 “simultaneously pushes” [sic] said switching elements Q1-Q6 to the heat-radiating member 107/207.

Regarding claim 7, Ochi’s motor drives fans 1/101 installed at one end of shaft 15 (Figs.3, 16 & 33) and thus teaches a cooling fan for cooling said switching elements Q1-Q6 and said coils 42 since the fan circulates air about the coils and switching elements, thus cooling these elements.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patyk in view of Kurome et al. (US 4,156,821). Patyk substantially teaches applicant's invention including holes 48 in the iron cores 40 for screwing one of said iron cores to said heat-radiating member 20 (by means of bolts 112); however, Patyk's iron cores 40 do not comprise "a bump protruding from an outer surface thereof."

Kurome teaches a stator core including a bump (protrusions) C protruding from an outside plane thereof (Figs.3,5&7), and the bump has a hole for screwing (using bolts) said one of said iron cores to said heat-radiating member (i.e., brackets H; c.6:48-c.7:13). The protrusions and bolts provide a means fixing the bracket to the stator core (c.3:38-44).

It would have been obvious to modify Patyk and provide bumps per Kurome since the bumps would have provided a means of fixing the bracket to the stator core.

Response to Arguments

8. Applicant's arguments with respect to claims 1-7 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

10. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BURTON MULLINS whose telephone number is (571)272-2029. The examiner can normally be reached on 9-5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571)272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-

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9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BURTON MULLINS/
Primary Examiner, Art Unit 2834

bsm
02 April 2008